REMARKS

The Official Action dated October 11, 2000 has been carefully considered. Accordingly, the changes presented herewith, taken with the following remarks, are believed sufficient to place the present application in condition for allowance. Reconsideration is respectfully requested.

By the present Amendment, claim 1 has been amended to more clearly define the one or more ABPA-related recombinant allergens as discriminating between ABPA and allergic sensitization to *A. fumigatus* in accordance with the teachings of the specification at page 3, line 34 - page 4, line 4 and in the discussion of the exemplary teachings set forth at page 16, line 4 - page 20, line 28 and tables thereafter. Claims 4, 5, 16 and 18 have been amended to more clearly define the ABPA-related fragments as binding with IgE or IgG antibody as set forth at page 3, line 34 - page 4, line 2 and in the exemplary teachings discussed beginning at page 16, line 4. Claim 9 is amended to change its dependency and claims 17 and 19 are amended to relate to selected embodiments of the invention. A Version With Markings Showing Changes Made is attached hereto. It is believed that these changes do not involve any introduction of new matter, whereby entry is believed to be in order and is respectfully requested.

In the Official Action, claims 4, 5, 12, 13 and 16-20 were rejected under 35 U.S.C. §112, first paragraph, on the basis that the specification does not reasonably provide enablement for ABPA-related fragments of rAsp f4, f6 or f8. The Examiner asserted that the specification provides no working examples demonstrating antibody activity with ABPA-related fragments, and the Examiner relies on the Colman publication "Effects of Amino Acid Sequence Changes on Antibody-Antigen Interactions" as teaching that single amino acid changes in an antigen can abolish the antibody-antigen interaction entirely.

This rejection is traversed and reconsideration is respectfully requested. More particularly, Applicants submit that claims 4, 5, 12, 13 and 16-20 are fully enabled to one of ordinary skill in the art by the present specification. That is, according to claims 4, 5, 12 and 13 depending from claim 5, 16 and 18, the respective ABPA-related fragments are defined as

binding with IgE or IgG antibody. One skilled in antibody-antigen art can easily determine if an ABPA-related fragment of the rAsp f4, f6 or f8 binds with IgE or IgG antibody. Moreover, the exemplary teachings are set forth in the present specification, for example at page 12, line 11 - page 16, line 2. While Colman discusses the effects of amino acid sequence changes on antigen-antibody interactions, Applicants find no teaching or suggestion by Colman that it is not within the ability of one of ordinary skill in the art to determine if a given fragment of an allergen as recited in the present claims binds to an IgE or IgG antibody as required by the present claims. It is therefore submitted that claims 4, 5, 12, 13, 16 and 18 are fully enabled by the present specification in accordance with the requirements of 35 U.S.C. §112, first paragraph. Finally, Applicants note that claims 17 and 19 are now directed to the embodiments wherein the one or more allergens are selected from the group consisting of rAsp f4 and rAsp f6 (claim 17) or wherein the allergen is rAsp f8 (claim 19). It is therefore submitted that the rejection under 35 U.S.C. §112, first paragraph, has been overcome. Reconsideration is respectfully requested.

Claims 1-3, 6-11, 14 and 15 were rejected under 35 U.S.C. §102(b) as being anticipated by the Moser et al publication "Clinical Aspects of Allergic Disease". The Examiner asserted that Moser et al teach the diagnosis of APBA by use of a recombinant allergen from *A. fumigatus*, wherein skin prick tests and ELISAs are used and IgE and IgG classes and subclasses are determined.

However, as will be set forth in detail below, Applicants submit that the methods defined by claims 1-3, 6-11, 14 and 15 are not anticipated by and are patentably distinguishable from the teachings of Moser et al. Accordingly, this rejection is traversed and reconsideration is respectfully requested.

More particularly, as defined by claim 1, the present invention is directed to methods for the diagnosis of ABPA in a human individual. The methods comprise determining if the individual carries antibodies reactive with one or more ABPA-related recombinant allergens, which one or more ABPA-related recombinant allergens discriminate between ABPA and

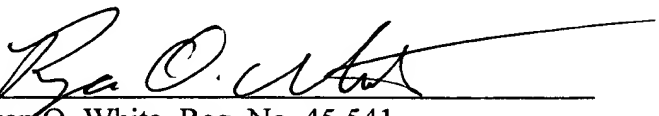
allergic sensitization to *A. fumigatus*. As set forth in the present specification, for example beginning at page 1, line 28, the diagnostic criteria for ABPA include eight factors. However, all of the eight criteria are rarely present at the same time and diagnosis of ABPA in patients with cystic fibrosis is even more difficult, whereby identification of ABPA has been difficult. However, the present methods provide an improved method for diagnosis of ABPA.

Moser et al describe a clinical study which compares the use of recombinant *A. fumigatus* allergen I/A (rAsp f1/A) to commercial *A. fumigatus* extracts in skin prick tests, intradermal tests and serologic assays. However, it is clear from the teachings of Moser et al that the rAsp f1/A employed therein does not discriminate between ABPA and allergic sensitization to *A. fumigatus*. That is, Moser et al disclose that five out of ten *A. fumigatus* allergic patients with asthma, but without ABPA, reacted positively in both serology and skin tests employing rAsp f1/A. On the other hand, the methods of the present invention employ ABPA-related recombinant allergens which discriminate between ABPA and allergic sensitization to *A. fumigatus*. Applicants find no teaching or suggestion by Moser et al in this regard.

Anticipation under 35 U.S.C. §102 requires the disclosure in a single prior art reference of each element of the claims under consideration, *Alco Standard Corp. v. TVA*, 1 U.S.P.Q.2d 1337, 1341 (Fed. Cir. 1986). As Applicants find no teaching or suggestion by Moser et al methods employing one or more ABPA-related recombinant allergens which discriminate between ABPA and allergic sensitization to *A. fumigatus*, particularly in a method for the diagnosis of ABPA in a human individual by determining if the individual carries antibodies reactive with one or more of such ABPA-related recombinant allergens, Moser et al do not disclose each element of the claims under consideration and therefore do not anticipate claim 1 or claims 2, 3, 6-11, 14 and 15 dependent thereon, under 35 U.S.C. §102. It is therefore submitted that the presently claimed methods are not anticipated by Moser et al and that the rejection under 35 U.S.C. §102 has bee overcome. Reconsideration is respectfully requested.

It is believed that the above represents a complete response to the Examiner's rejections under 35 U.S.C. §§ 102 and 112, first paragraph, and places the present application in condition for allowance. Reconsideration and an early allowance are requested.

Respectfully submitted,

By 

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VERSION WITH MARKINGS SHOWING CHANGES MADE

1. (Twice Amended) A method for the diagnosis of ABPA in a human individual, comprising determining if the individual carries antibodies reactive with one or more ABPA-related recombinant allergens, which one or more ABPA-related recombinant allergens discriminate between ABPA and allergic sensitization to *A. fumigatus*.

4. (Twice Amended) The method according to claim 1, wherein the one or more allergens are selected from the group consisting of rAsp f4 and rAsp f6, and ABPA-related fragments thereof which bind with IgE or IgG antibody.

5. (Twice Amended) The method according to claim 1, wherein the one or more allergens are selected from the group consisting of rAsp f8 and ABPA-related fragments thereof which bind with IgE or IgG antibody.

9. (Twice Amended) The method according to claim 8 [7], wherein the test is a skin test involving placing said one or more ABPA-related allergens in the skin of the patient.

16. (Amended) The method according to claim 2, wherein the one or more allergens are selected from the group consisting of rAsp f4 and rAsp f6, and ABPA-related fragments thereof which bind with IgE or IgG antibody.

17. (Amended) The method according to claim 1 [3], wherein the one or more allergens are selected from the group consisting of rAsp f4 and rAsp f6[, and ABPA-related fragments thereof].

18. (Amended) The method according to claim 2, wherein the one or more allergens are selected from the group consisting of rAsp f8, and ABPA-related fragments thereof which bind with IgE or IgG antibody.

19. (Amended) The method according to claim 1 [3], wherein the [one or more allergens are selected from the group consisting of] allergen is rAsp f8[, and ABPA-related fragments thereof].